



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,577	02/12/2002	Ji-Young Jang	A-0010US	9888

7590 04/05/2004

SPENCER S. CHEN  
LAW OFFICE OF SPENCER S. CHEN  
38 DOCKSIDE CIRCLE  
REDWOOD CITY, CA 94065-1770

EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
----------	--------------

1764

DATE MAILED: 04/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

009

## Office Action Summary

Application No.

10/075,577

Applicant(s)

JANG ET AL.

Examiner

Virginia Manoharan

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 1764

### Detailed Office Action

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on Jan. 13, 2004 have been approved.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the limitation “ **the dehydration column operating at greater than ambient pressure** is not positively recited in the specification.

Claims 14-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). It is unclear whether the overhead pressures, recited in claims 21-22, would constitute the “greater than ambient pressure” operating pressure of the column recited in claim 1 ? [ Normally, the column has an overhead pressure that is different from the bottoms pressure].

b). The claimed “**to a liquid having an organic component and a water component...**” in claim 14, lines 8-9, provides for ambiguity and confusion.

The “organic component and a water component” different or the same from the initially recited “stream of water containing acetic acid” in line 3? The “organic component” is also broadening the initially recited “acetic acid”. The “a water component” should be---the water component----since water is already initially recited in line 3.

Art Unit: 1764

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' disclosure of admitted prior art in view of U.S. Patent No. 2,275,802 to Othmer et al ("Othmer") and to U.S. Patent No. 2,171,549 to Gordon et al ("Gordon"). Applicants' admission and Othmer are applied for the same combined reasons as set forth at page 3, last paragraph through page 4, excluding the last sentence, of the previous Office action.

The difference seen is that in applicants' admission, the operating pressure used e.g., is ambient pressure and Othmer is silent on its operating pressure. The claimed process is operating at "greater than ambient pressure..." However, this difference is deemed not to constitute a patentable distinction, inasmuch as parameters like pressures and temperatures are known to be the driving force in any distillation operations and therefore are deemed to be result-effective variables which are within the skilled of an artisan. This is evident, for example, in Gordon's teaching or suggestion at page 8, lines 60-65. That is, Gordon teaches or suggests that in the azeotropic distillation process for concentrating aqueous aliphatic acids, including acetic acid, where water is removed, the process is preferably operated under about atmospheric pressure conditions. However, the process can be conducted with the system at pressure either above or below atmospheric.

Applicant's arguments filed January 13, 2004 have been fully considered but they are not persuasive. Applicants' following arguments such as:

"...Applicants have amended claim 14 to recite, among other things "...the dehydration column operating at greater than ambient pressure." There is no teaching or suggestion in what the examiner regards as Applicants' admissions to modify the azeotropic distillation process disclosed in *Othmer* to include operating the dehydration column above ambient pressure. For example, *Othmer* merely discloses an azeotropic distillation process..." are not considered well-taken.

While *Othmer* is silent about its operating pressure, and in applicants' admission, the pressure used is ambient pressure, however, to operate at greater than ambient pressure is not unobvious nor is it evidence of criticality in the art as taught by Gordon, *supra*. The prior art processes achieved the same results & advantages as claimed and as stipulated at page 16 of the specification. As indicated in the previous Office action applicants admit that a "conventional dehydration column generates low pressure steam (typically 0.6-0.7 kg/cm<sup>2</sup>g) at the top of the column)" which pressure is within the pressure claimed e.g. in claim 19.

Furthermore, the azeotropic distillation of the prior art presented in the Table at page 17 of the spec. shows 31.2. "Total acetic loss to WWT Ton/year "which is equivalent to "31.2" both in Inventions (cases 1 & 2).

Thus, in the absence of anything which may be "new" or "unexpected result", a *prima facie* case of obviousness has been established by the art and has not been rebutted.

Art Unit: 1764

Unexpected results must be established by factual evidence. Mere arguments or conclusory statements in the specification, applicants' amendments, or the Brief do not suffice. In re Linder, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972). In re Wood, 582, F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is (571) 272-1450. The examiner can normally be reached on Tuesday-Friday from 7:00a.m to 6:00p.m.


Art Unit: 1764

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola, can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9311.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Manoharan/tgd

March 26, 2004

  
VIRGINIA MARK  
PRIMARY EXAMINER  
ART UNIT 1281 *ref*